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LOCUST 2-5000GENERAL OFFICES  
2711 NORTH 13TH ST.**BRIGGS & STRATTON CORP.**

BRIGGS &amp; STRATTON

**MILWAUKEE 1, WIS.**

January 18, 1960

*Destructor Systems, file*

25X1

Dea: 

25X1

Thank you for your request for information concerning the new Briggs & Stratton "Shock-Free" Wind-Up Starter used on our vertical shaft engines.

We are sending you a detailed specification sheet describing the new starter, a copy of the operating instructions and pictures of the unit.

If further information is required, please let us know.

Yours very truly,

25X1

Sales Manager  
Engine Division

JHE/mjf

25X15X1

*for gk  
Art 622*

It would seem advantageous to have a starter mechanism similar to this on any gasoline-powered incinerator blowers you put in the field.

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## OPERATING INSTRUCTIC

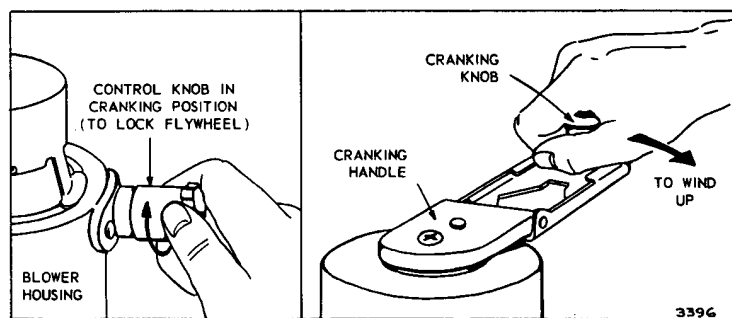
### BRIGGS & STRATTON CORP. SHOCK - FREE WINDUP STARTER

The Briggs & Stratton SHOCK-FREE Windup Starter is unique in principle. Its safety and long life features are designed to provide you with easy and trouble-free starting. To obtain the best performance and assure the safe operation of this starter, observe the following instructions.

The principle of this starter is to first, lock the flywheel of the engine to prevent rotation; then wind up the powerful spring. After the spring has been wound up, the lock on the flywheel is released and the energy stored in the spring cranks the engine to start it.

#### TO START ENGINE

1. Be sure you are familiar with the instructions on page 4 and 5 of the Operating Instructions for your engine model, regarding the proper use of the choke on the carburetor.
2. Turn control knob on side of blower housing clockwise to "Crank" position.



#### ALWAYS BE SURE YOU ARE STANDING CLEAR OF MOWER BLADE

3. Lift cranking handle and extend to cranking position.
4. Turn cranking handle clockwise until spring is fully wound up.
5. Fold cranking handle to retracted position.
6. Set engine choke following Operating Instructions (See No. 1 above), and turn control knob on blower housing counter-clockwise to "Start" position. As engine starts, adjust choke to "Open" or "Run" position.

**NOTE:** Do not turn control knob to "Crank" position while engine is running.

A small padlock can be inserted through a hole next to the hinge of the cranking handle when handle is folded in the retracted position. The padlock will discourage unauthorized persons from starting the engine.

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#### IF YOU ARE GOING TO WORK ON YOUR LAWN MOWER

If it is necessary to inspect or to do any work on the lawn mower, such as work on the blade, or cleaning the under-deck, always carefully observe the following instructions:

1. Disconnect ignition wire from spark plug and remove spark plug from engine.
2. Turn control knob to "Start" position to crank engine, releasing starter spring. To be sure starter spring is fully released, turn starter cranking handle in clockwise direction for several turns, and note if engine screen under starter cover also turns. If it does, it is safe to proceed with work on mower.

## IF THE STARTER DOES NOT CRANK THE ENGINE

If you have turned the cranking handle clockwise as far as it will go, and if the starter does not crank the engine with the control knob in the "Start" position, it indicates that the starter spring cannot crank the engine. This most likely will be for one of two reasons: either the mower blade has become entangled in an under deck obstruction or the starter has become inoperative. In either case the starter unit must be removed from the engine.

Before doing this, disconnect the ignition wire from the spark plug and remove spark plug from engine. To remove the starter, it is necessary to remove the blower housing to which the starter is welded. This is accomplished as follows:

- A. 1. On the Vacu-Jet and Pulsa-Jet Models (on which the fuel tank is mounted to and under the carburetor): Remove only the 3 cap screws attaching the blower housing to the cylinder-head and cylinder.
2. On Flow-Jet Models (on which the fuel tank is permanently attached to the blower housing): Remove the 3 blower housing cap screws as in #1 and, in addition, close the fuel shut-off valve under the fuel tank and disconnect the fuel line at the tank.

**NOTE:** DO NOT loosen screw which holds the starter cranking handle.

- B. Grasp the blower housing firmly, and carefully and slowly pull it only high enough to permit the starter spring to unwind. (In the case of a tight fit of the blower housing to the engine, it may be necessary to use a screwdriver to pry it off). You will know if the spring unwinds by the sharp noise it will make.

Completely remove blower housing from engine.

If you do not hear the noise of the spring unwinding, it will mean that the starter has become inoperative. In this case, **DO NOT** attempt to dismantle or repair the starter. Take it to the nearest authorized Briggs & Stratton service station.

- C. If you have heard the spring unwind, you may assume the starter is operating satisfactorily. Next, look for a mower blade obstruction and clear it, then re-assemble the blower housing. (If you do not find a mower blade obstruction, you may assume that there is some mechanical problem with the engine. In this case, consult your nearest authorized Briggs & Stratton service station).

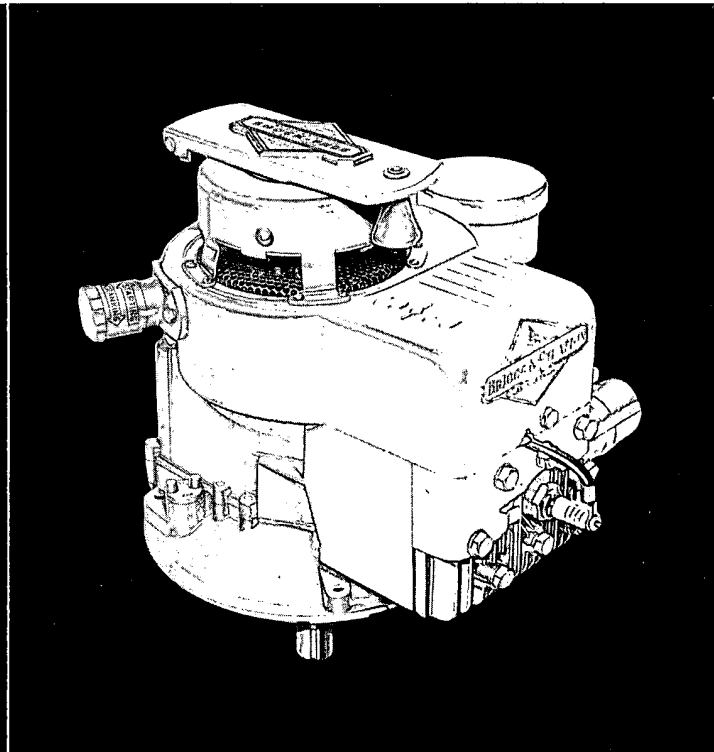
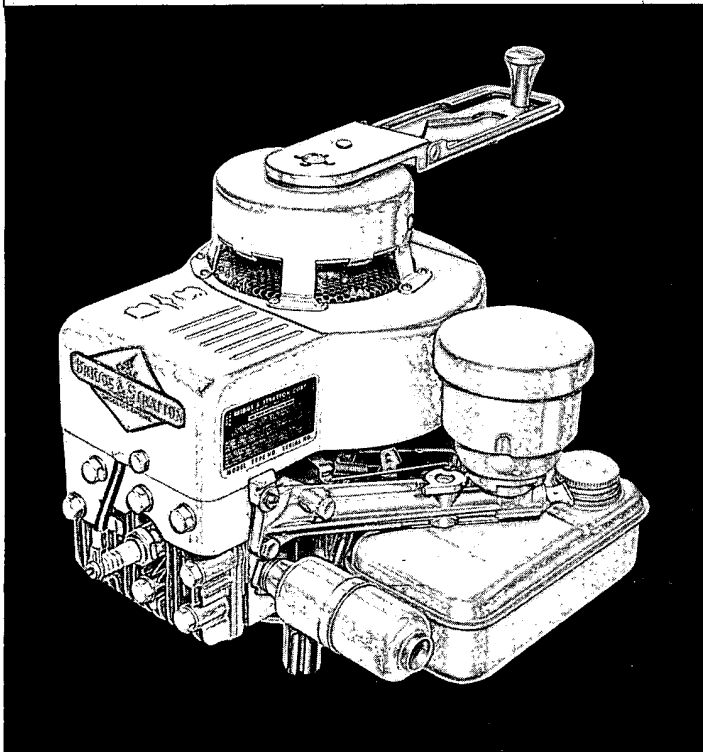
To re-assemble the blower housing and starter, it is necessary to match the flat side of the star-shaped clutch ratchet, on the engine crankshaft, with the flat side of the mating part in the starter. This is most easily done by turning the clutch ratchet counter-clockwise until the flat side is parallel with the cylinder-head. Using the cranking handle, turn the mating part in the starter until the flat side is parallel with the square end of the blower housing. With these parts so positioned, the blower housing will slip into place easily and should be fastened with the 3 cap screws.

**CAUTION:** If starter unit is ever disassembled for any reason, **DO NOT** remove starter spring from its steel housing. The powerful spring which cranks the engine will unwind with great force and could cause a severe injury.



# BRIGGS & STRATTON

## "SHOCK-FREE" WINDUP ENGINE STARTER

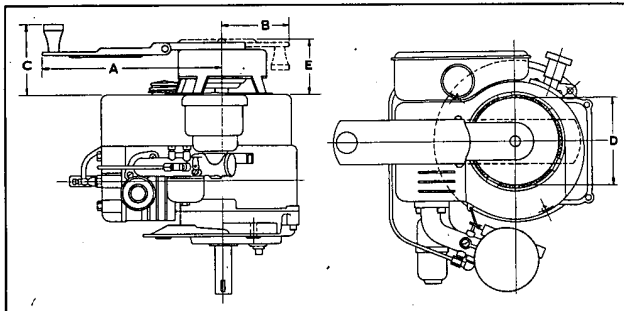


The Briggs & Stratton "Shock-Free" windup starter is unique in design and construction. Its safety and long life advantages have proven it superior in every comparative test. No other starter possesses these exclusive features:

- A heavy starter spring that can be energized with extraordinary ease.
- A starter clutch that is engaged from the moment the winding operation is begun.
- Jerky engagements are eliminated — there are no ratchets or pawls to engage with a jolt.
- The "Shock-Free" starter assures quick, smooth engine starts.
- An escapement type of mechanism in the starter handle, together with a safety spring, will NOT allow the cranking handle to kick back — a sure safeguard against injury or damage.
- The rugged construction of this device assures long life and trouble-free operation.
- Provision is made for locking the start control with a padlock — prevents children or curious individuals from releasing starter accidentally.
- The "Shock-Free" windup starter is manufactured and guaranteed by Briggs & Stratton — largest manufacturers of single cylinder engines in the world.

(See reverse side for detailed drawings)

### DIMENSIONS AFFECTED BY INSTALLATION OF "SHOCK-FREE" STARTER



Model Series	A	B	C	D	E
60500	9 3/4	3 3/8	3 5/8	4 3/4	3 1/8
60700	9 3/4	3 3/8	3 3/8	4 3/4	3 1/8
80500	9 3/4	3 3/8	3 3/8	4 3/4	3 1/8
80700	9 3/4	3 3/8	3 3/8	4 3/4	3 1/8
80900	9 3/4	3 3/8	3 5/8	4 3/4	3 1/8

For complete dimensional data, refer to engine specification sheets

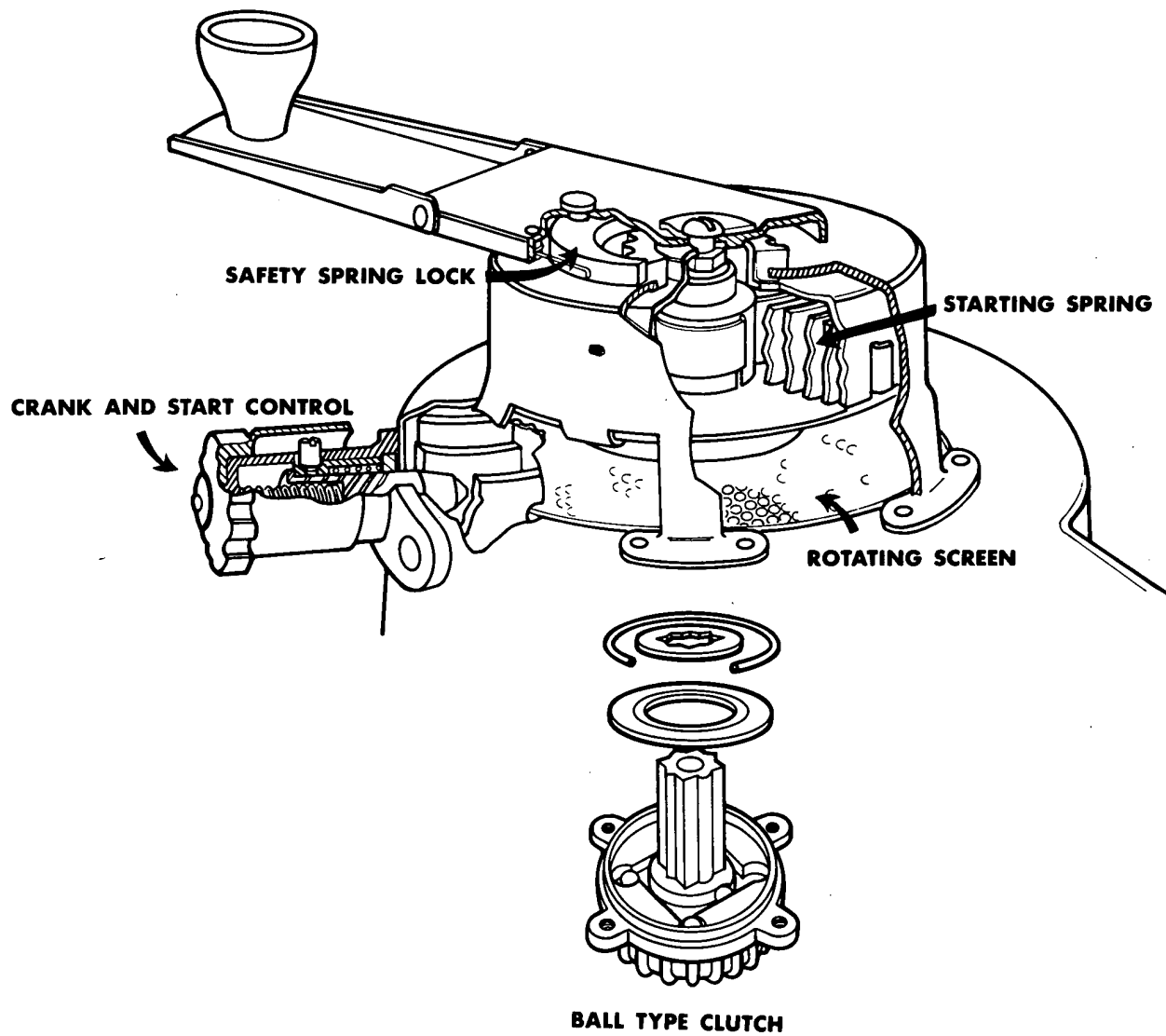
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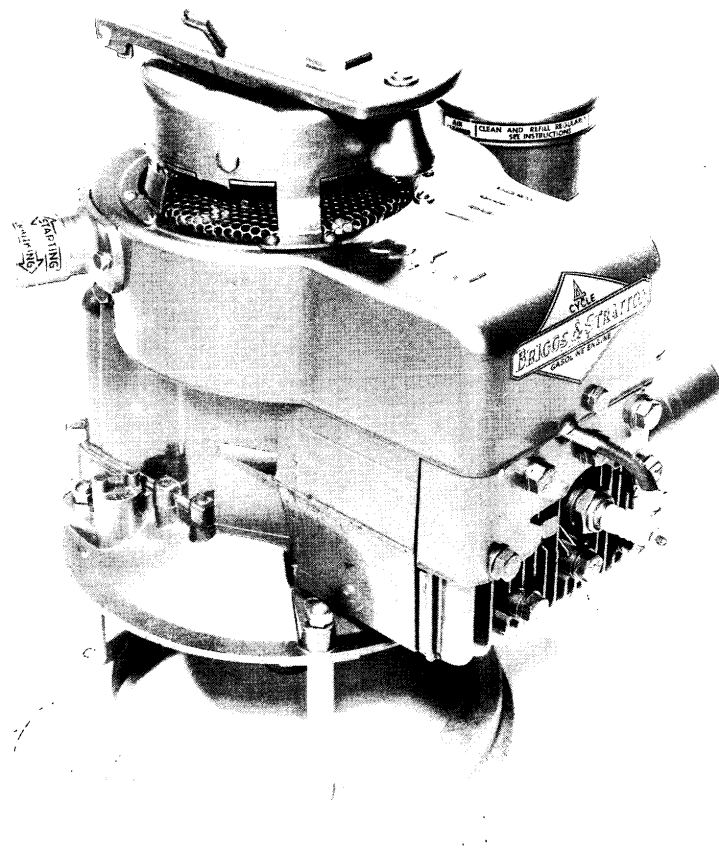
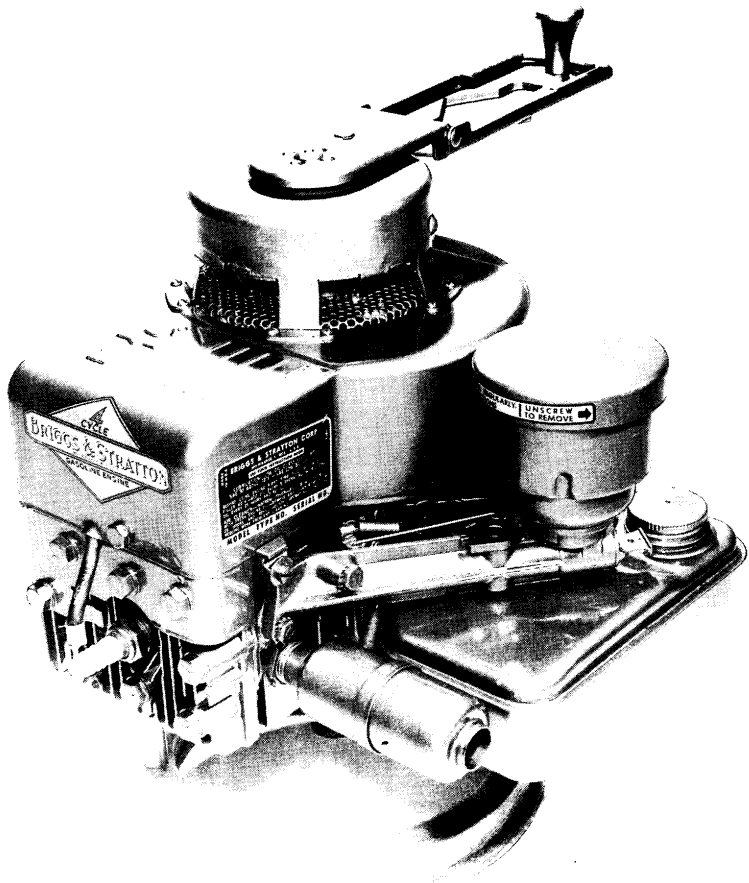
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MILWAUKEE, WISCONSIN, U.S.A.



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The New Briggs & Stratton "PULSA-JET" Carburetor

This memorandum will announce the new Briggs & Stratton "PULSA-JET" carburetor that is available on 8 cubic inch displacement, 3 HP engines of the vertical crankshaft type. The "PULSA-JET" principle enables us to obtain the same horsepower from an engine with equal displacement as we do with our float type carburetor.

This new carburetor works on the same principle as the suction type that we have been making for many years, with the exception that it is equipped with a diaphragm type of pump and an auxiliary fuel cup that insures efficiency equal to, or better than, the float type. It has decided advantages over the float type for many kinds of applications. It is for practical purposes, foolproof, as it incorporates but one adjustment, whereas, on float type carburetors two adjustments are necessary to get top performance.

With the "PULSA-JET" Principle, the gasoline supply is stored below the carburetor and there is no chance of the carburetor leaking fuel when the engine is stored. If dirt or gum collects under the float pin on the float type carburetor, gasoline would be spilled due to the gravity flow of the fuel. Also, there is no need for ball check used in the intake to the fuel pipe in this new system, as is used on the conventional suction carburetor.

The intake valve in the "PULSA-JET" pump serves the same function as the ball check valve in the fuel pipe and the small cup from which fuel is drawn into the cylinder is located so close to the carburetor that a check valve is not needed in its intake. Both intake pipes on this new carburetor are equipped with fine screens to eliminate any hazard of dirt clogging the orifices.

This automatic fuel pump is positioned in the throat of the carburetor between the venturi and the intake port of the engine. The diaphragm pump is actuated by pulsations of the intake gas in the carburetor throat. The diaphragm also provides a valve mechanism in the pump with the ability to close and open the intake and discharge valves automatically.

As the pump operates, the gasoline is drawn up from the main tank located under the carburetor and is discharged into the small reservoir or cup in the main tank directly under the carburetor. This small reservoir holds approximately 30 cc. of gasoline and is provided with an overflow at the top so that the level in the small cup is always constant - as the pump itself has

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The New "PULSA - JET" Carburetor

more than sufficient capacity to supply the fuel that the engine needs. The excess, therefore, overflows into the main tank.

By holding the fuel level constant in this auxiliary reservoir, we are able to open up the passages in the carburetors so that we can get maximum horsepower performance and still have a fuel mixture on the carburetor which will not change under any conditions of operation.

The diaphragm in this new carburetor is made of the same material as is commonly used in the diaphragms of fuel pumps. It is a nylon fabric impregnated with neoprene. Our tests have shown that some of these diaphragms have operated in excess of 1500 hours without replacement.

Should the engine stop due to an empty fuel tank, both the main tank and the auxiliary tank will be dry. We have found that the main tank can be partially filled and the engine started with three pulls of the rope when the carburetor is fully choked. The fuel reservoir, or cup, of course, normally has a supply of fuel and usually the engine will start on the first pull when the cup is full.

The simplicity of this new "PULSA - JET" carburetor and its single adjustment feature makes it the safest and best fuel system that we have ever made to put into the hands of the average user of rotary lawn equipment. Foolproof, reliable, long - lived, and trouble - free, that's a "PULSA - JET".

A diagram illustrating the operation of the "PULSA - JET" is attached.

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